

ATTACHMENT - REMARKS

By this Amendment, various clarifying corrections have been made in the specification. In the claims, independent claim 27 has been amended for clarity and to better define the invention. Other dependent claims have also been canceled or amended consistent with the changes to independent claim 27 and/or for clarity. It is submitted that the present application is in condition for allowance for the following reasons.

Initially in the ***Drawings*** section of the outstanding Office Action, the examiner noted that motor "drive shaft 35" was not correct. By this Amendment, this recitation has been changed to "drive shaft bearing 35", which is the element depicted. Also in this section, the examiner stated that element "58" was not shown in figure 8. It is believed that the examiner meant to indicate that tilt mechanism "62" was not shown, since element 58 is definitely shown. However, the correct reference here should have been to "tilt mechanism 58", so that change has now been made in the specification. In view of these corrections, it is submitted that the objections to the drawings have now been overcome.

In the following ***Specification*** section, the examiner noted that figure 4 (as part of the reference to figures "4 and 5") was referred to a number of times inappropriately. By this Amendment, the inappropriate references to figure 4 have been changed by correctly referring to figures "5 and 6". It will also be appreciated that various other self-evident corrections have been made to the specification (including the proper identification of element 62, consistent with its use in original claim 62), which

corrections were noted in reviewing the specification. In view of all of these corrections, it is submitted that the objection to the disclosure has also been overcome.

In the ***Claim Rejections - 35 USC § 112*** section, dependent claims 29 and 32 were rejected for containing subject matter which was not shown or adequately described. It is initially submitted that the subject matters of these claims are adequately described sufficiently for those of ordinary skill to utilize this subject matter; but it is conceded that such is not shown in the drawings. Therefore, for convenience, claims 29, 55 (claiming similar subject matter) and 32 are now canceled to overcome this rejection.

In the ***Claim Rejections - 35 USC § 103*** section, independent claim 27 and the pending dependent claims were all rejected under 35 USC § 103 as being obvious over the principal Schuppler patent, Pender patent or Hennequin patent with or without the use of other references. However, for the following reasons, it is submitted that the pending claims are all allowable.

Initially, it is noted that independent claim 27 has been amended to include the lift mechanism of (now canceled) dependent claim 30 and the tilt mechanism of (now canceled) dependent claim 36. Thus, none of the outstanding prior art rejections address this combination of features. However, it was asserted by the examiner that: the original blind features of the slat, attachment member and cords were shown by the Schuppler patent; and the features of the lift mechanism and tilt mechanism were shown by the Pender patent, or a different tilt mechanism by the Hennequin patent. The original blind features as allegedly shown in the Schuppler patent will not be

discussed hereafter; but the patentability of the lift and tilt mechanisms will be discussed hereafter with reference to the Pender patent and the Hennequin patent.

The Pender patent discloses a mechanism which is broadly similar to the present invention. There is, however, at least one major difference in that the present invention as claimed in independent claim 27 includes a tilt house (41) covering the portion of the tubular member (36) upon which the lift cords are wound. The tilt house (41) of the present invention always rotates with the drive shaft (33) and the tubular member (36). On the outer circumferential surface of the tilt house (41), the tilt member (42) that determines tilting of the slats is mounted such that it can only follow the rotational movement of the tilt house over a limited angular range (and so the tilt house can always rotate). In the Pender patent mechanism, the cord spool (21) (which corresponds to the tubular member (36)) is covered by the tape drum (20) (which corresponds to the tilt member (42)) which can only follow the rotation of the cord spool (21) over a limited angular range determined by the stops (62, 63). Hence, there is no tilt house mounted for co-rotation always with the drive shaft in the Pender patent mechanism as claimed in claim 27, and such would not be obvious from the disclosed mechanism.

The fact that in the Pender patent mechanism, the housing provided by the tape drum (20) must remain stationary when prevented from rotation by stops (62, 63) means that in the Pender patent mechanism there is relative rotational movement between the cord spool (21), and hence between the portion of the lift cord (35) wound upon the cord spool (21), and the inner circumferential surface of the tape drum (20). In the lift mechanism according to the present invention, there is no such relative rotational

movement present between the tubular member (36), and hence between the portion of the lift cords (20) that are wound upon the tubular member (36), and the inner circumferential surface of the tilt house (41).

In practical implementations of the lift and tilt mechanism according to the present invention, this lack of relative rotational movement between the lift cords (20) and the inner surface of the tilt house is important at least for the following reasons.

- 1) In a lift mechanism that is not primarily designed for manual operation but rather for automatic operation by a motor (34) driving the shaft (33), it is of great importance to ascertain proper winding of the lift cords on the lift cord drum (the tubular member (36)) in order to prevent the lift cords from becoming entangled, thereby leading to malfunction or possibly even damage to the lift cords and/or the lift mechanism. Furthermore, it is important that the lift mechanism should ensure proper winding on/off of the lift cords, not only when these are attached to large, heavy slats in a Venetian blind and consequently acted upon by large gravitational forces, but also when the mechanism is used to operate smaller, light-weight slats, where friction in the mechanism may to a much larger extent tend to prevent proper winding on/off of the lift cords.
- 2) Even though not specifically described in the present application, it will be appreciated that in the embodiment shown in figure 5 of the present application, it is advantageous that the circumferential gap between the outer circumferential surface of the tubular member (36) and the inner circumferential surface of the tilt house (41) be made sufficiently narrow so that its radial extension either corresponds to the diameter of the lift cords (20) or so that the radial extension of the gap is even

somewhat less than the diameter of a non-compressed lift cord. With this construction, the lift cords when wound on the tubular member (36) in the gap actually become slightly compressed in the gap. This compression effectively prevents entanglement of the lift cords that are wound upon the tubular member (36). Furthermore, considering the situation where the lift cords are actually wound off the tubular member (36), i.e., when the slats are being lowered, the co-rotational movement of the tilt house (41) and the tubular member (36) tends to actively drive the lift cords downward through the channels (46) provided in the stationary bearing (40), thereby overcoming possible friction between the lift cords and the surface of the channels which might cause fouling. When heavy slats are used in the Venetian blind, the friction may well be overcome sufficiently by the force of gravity acting on the slats, thereby ensuring reliable un-winding of the lift cords from the tubular member (36); but when lightweight slats are used, it has in fact turned out to be advantageous that the lift cords are being actively driven in the manner described above and as claimed.

- 3) Driving the lift cords in the manner described above requires co-rotation between the tubular member (36) and the tilt house (41) over the entire operational range of the Venetian blind; and a relative rotational movement between the tubular member (and the lift cords) and the tilt house would even tend to impede un-winding of the lift cords from the tubular member, due to friction between the lift cords and the tilt house, resulting in wear of the cords and a risk of the cords actually becoming entangled. Furthermore, in a mechanism applying not one but two lift cords as is claimed in claim 27 (and note that the Pender patent applies only one lift cord (35)),

a very synchronous winding/unwinding of the two lift cords is important, which synchronism might be endangered by friction between the respective cords and the tilt house, as it cannot be assumed that frictional forces of equal magnitude would necessarily act on the two lift cords.

Therefore, at least for the above noted reasons, it is submitted that the claimed co-rotation of the tilt house (41) with the tubular member (36) is an important feature of the present lift mechanism; which co-rotation between the corresponding members (the tape drum (20) and the cord spool (21)) is certainly also not present in the mechanism described in the Pender patent, which mechanism does not comprise a "tilt house" in the sense of the present application.

It is also submitted that the mechanism described in the Hennequin patent also does not contain anything resembling a "tilt house". Rather, the mechanism described in the Hennequin patent has a quite different lift mechanism, simply consisting of the lift tape drum (30'). It seems rather inconceivable that the lift tape in the Hennequin patent should run a risk of becoming entangled during operation of the mechanism and the question of actively driving the lift cord/lift tape during unwinding from the respective drum members is not mentioned at all in either the Pender patent or the Hennequin patent, respectively.

Therefore, for all of the foregoing reasons, it is submitted that amended independent claim 27 is neither disclosed nor made obvious by a combination of the Schuppler patent with the Pender patent, and/or the Hennequin patent, so that independent claim 27 is allowable over these references. For these same reasons, it is

submitted that claims 28, 31, 33-35, 37-39, 41, 44-46, 48, 54 and 56-59 dependent from claim 27 are likewise allowable.

For all of the foregoing reasons, it is submitted that the present application is in condition for allowance and such action is solicited.

Respectfully submitted,

Date: July 13, 2009

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